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Relative Tectonic Activity Assessment and Kinematic Analysis of the North Bozgush Fault Zone, NW Iran

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Abstract

NW Iran is among the most interesting and complex areas within Arabian-Eurasia collision zone. Historical and instrumental earthquake records in this region indicate that active faults have the potential to produce serious seismic hazards in the future. The North Bozgush Fault Zone, an anastomosing fault zone, consists of several parallel and sub-parallel faults which have developed in a right lateral strike-slip system with a reverse component. Our structural analysis shows that faulting occurs along a strong dominant compressional strike-slip regime and is predominantly related to NW-SE shortening along the zone.

This paper represents an analysis of the morphometric indices to depict the tectonic activity of the northern part of the Bozgush Mountains, an area with a typical tectono-morphology.

The result of the morphometric analysis shows that relative tectonic activity along the North Bozgush Fault Zone decreases significantly from west to east. Measured uplift rates show that the uplift rate is higher than 0.5 mm/yr in the western and central parts and decreases

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